

WHAT IS CLAIMED:

1. An automatic analyzer comprising;  
a reaction vessel where solution specimen is mixed with  
reagent to react with it,

5 a light source to apply light to said reaction solution  
and

an analysis unit to analyze light passing through said  
reaction solution;

10 wherein said automatic analyzer further comprises an  
agitator to apply ultrasonic wave to said reaction solution  
and to agitate said reaction solution, and

the direction of the ultrasonic wave emitted from said  
agitator and the direction of the light applied to said reaction  
solution are deviated from each other to the extent to which  
15 the surface exposed to ultrasonic wave on said reaction vessel  
does not overlap the surface exposed to light.

2. An automatic analyzer according to Claim 1 wherein  
the surface exposed to ultrasonic wave on said reaction  
vessel has the size formed by projecting the size of the electrode  
20 surface of the ultrasonic wave transmitter of said agitator  
into the surface of said reaction vessel, while the surface  
exposed to light has the size formed by projecting on the surface  
of said reaction vessel the size of the lens which the light  
emitted from the light source last passes through.

25 3. An automatic analyzer comprising;  
a reaction vessel where solution specimen is mixed with  
reagent to react with it,

a light source to apply light to said reaction solution

and

an analysis unit to analyze light passing through said reaction solution;

5 wherein said automatic analyzer further comprises an agitator to apply ultrasonic wave to said reaction solution and to agitate said reaction solution, and

10 said reaction vessel and the element emitting ultrasonic wave are arranged at the angle where ultrasonic wave reflected by the surface exposed to the ultrasonic wave of said reaction vessel does not come back to the surface of the ultrasonic wave generating element.

4. An automatic analyzer according to Claim 3 characterized in that said reaction vessel is shaped in a polygonal column, and the vertical projection plane of the surface of said reaction vessel exposed to ultrasonic wave coming from said agitator does not overlap the element emitting ultrasonic wave of said agitator.

5. An automatic analyzer comprising;  
20 a reaction vessel where solution specimen is mixed with reagent to react with it,

a light source to apply light to said reaction solution and

an analysis unit to analyze light passing through said reaction solution;

25 wherein said automatic analyzer further comprises an agitator to apply ultrasonic wave to said reaction solution and to agitate said reaction solution, and

ultrasonic wave coming from said agitator and light applied

to said reaction solution can be emitted simultaneously.

6. An automatic analyzer according to Claim 1 further characterized in that said reaction vessel has a form of prism and the surface exposed to ultrasonic wave emitted from said  
5 agitator is different from the surface exposed to light applied to said reaction solution.

7. An automatic analyzer according to Claim 5 further characterized in that irradiation conditions of ultrasonic wave coming from said agitator are controlled, based on the result  
10 of analyzing the light passing through said reaction solution.

8. An automatic analyzer according to Claim 5 further characterized in that the reagent for agitation and regulation can be used to analyze the light passing through reaction solution and to determine the optimum irradiation conditions of  
15 ultrasonic wave.

9. An automatic analyzer according to Claim 8 further characterized in that said optimum irradiation conditions of ultrasonic wave are stored in memory and ultrasonic wave  
irradiation conditions are determined in the analysis using  
20 the reagent other than that for agitation and regulation, based on said irradiation conditions.

10. A solution specimen analysis method comprising;

- (1) a step of pouring a solution specimen into the reactor vessel,  
25 (2) a step of pouring a reagent into said reaction vessel,  
(3) a step of applying ultrasonic wave to the mixture between solution specimen and sample and agitating it,  
(4) a step of applying light to said mixture from the

direction different from the direction where said ultrasonic wave is applied, and

(5) a step of analyzing said light passing through said mixture.